INFORMATION LETTER

Not for Publication — NATIONAL CANNERS ASSOCIATION — For Members Only

No. 1285 | Washington, D. C. | May 13, 1950

N. C. A. STAFF TO OCCUPY NEW BUILDING

The National Canners Association next week will occupy its new research laboratory and administrative offices at 1133 20th Street, N. W., in Washington. The staff will report there for work on Tuesday, May 16, and the switchboard there will be opened that morning as EXecutive 7030.

The move to the new building has been designed to reduce lost time to a minimum. However, there may be slight delays for a day or two in completing long-distance telephone calls to some staff members. There will be no delay in the handling of mail and telegraphic communications.

The N.C.A. Will Occupy

its new headquarters building at

1133 20th Street, N.W.
Washington 6, D.C.

on May 16

Communications for the N.C.A.'s Washington Office should be sent to that address. The N.C.A.'s new telephone number will be:

EXecutive 7030

Processes for Asparagus, Green Beans, and Peas In Metal Containers

At a meeting of the N.C.A. Processing Committee on Foods in Metal Containers, held on April 5, 1950, final decisions were made with regard to the publication of the 7th Edition of Bulletin 26-L, entitled *Processes for Low-Acid Canned Foods in Metal Containers.* Distribution of the 7th Edition is scheduled during June, 1950. Since seasonal packs of asparagus, green beans, and peas are or will soon be under way, processes which will be recommended in the 7th Edition are published for the immediate information of packers of these products. Please turn to page 172.

Raw Products Research Notes

Six issues of "Raw Products Research Notes" have been prepared and distributed this spring by the Association's Raw Products Bureau to canners and their field men who are especially interested in crop production problems and who have previously indicated a desire to receive this material. Additional copies are also available upon request directed to the Bureau.

These "Notes" contain short abstracts or descriptions of articles cur-

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Canners, Brokers, Suppliers and Others Attending 1951 Convention Will Be in Chicago at Same Time

The 1951 Convention in Chicago will bring together at one time all of the participating groups, rather than on a departmentalized schedule (sales and production periods) as was the pattern in Atlantic City this year.

Scheduling a simultaneous period of meetings and contacts is in response to the expressed desire of a majority of the memberships of the three sponsoring associations—National Canners Association, National Food Brokers Association, and Canning Machinery & Supplies Association—although it was realized that the hotel problem will be intensified by bringing all groups into Chicago at the same time. This has been thoroughly canvassed with the Chicago Convention Bureau and hotels, and it is believed that plans now developed will make it satisfactory to concentrate Convention activities into the week of February 18, 1951.

The official N.C.A. and N.F.B.A. programs will start Sunday afternoon, February 18, while the annual C.M.&S.A. Exhibit will open a day earlier, on Saturday, February 17.

In Chicago next year, as was the plan followed at Atlantic City, N.C.A. will house its own members and the

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Food Plant Sanitation Instruction Given by N.C.A.

Two one-week training courses in food plant sanitation were conducted in April and May by the N.C.A. Western Branch Laboratory. The courses were held in Salem, Ore., and San Francisco, Calif., and provided instruction for about 90 men from 60 canning plants in the western states. A high proportion of those in attendance were key men in production, sanitation, and quality control.

Group discussion formed an important part of the courses, and addresses were given by officials of the state and national food and drug agencies, management and sanitation personnel of several canning companies, experts in such fields as plant safety, and by members of the Western Branch staff. Each course covered the field of plant sanitation from its underlying principles to the newest technical and practical developments.

INSECTICIDES

Food and Drug Pesticide Tolerance Hearings

Following is a summary, prepared by Association Counsel and staff, of the proceedings at the FDA hearing on insecticide tolerances from May 1 through May 5, 1950.

The final portion of the "necessity for use" phase of the Insecticide Tolerance Hearings was begun during the week of May 1 through May 5 with testimony by representatives of the insecticide industry. For the most part, their testimony was brief because the witnesses from experiment stations have already given thorough coverage of the uses and needs for insecticides.

The first witness was Merrill M. Darley, supervisor of the Agricultural Department of the General Chemical Division, Allied Chemical & Dye Corp. He developed the history of the use of arsenates as insecticides and introduced an exhibit showing current state recommendations as to their use.

Mr. Darley's exhibit shows that arsenate is used for the following controls in the numbers of states indicated:

Plum curculio on peaches	29
Peach twig borer	4
Rose chafer, leafroller, cankerworms	1
Plum curculio on plums and prunes	16
Plum curculio on cherries	13
Cherry fruit flies	6
Pear slug	3
Cherry curculio	1
Plum curculio on apricots	3
Peach twig borer on apricots	4
Apple spray schedules	33
Pear spray schedules	18
Raspberry and blackberry spray schedules	6
Currant and gooseberry spray schedules	3
Grape spray schedules	10
Strawberry spray schedules	6
Vegetable crop spray schedules for various insects	9

Because these fruits and vegetables are of great economic importance and because the arsenates are extensively recommended for use in controlling the insects which attack them, Mr. Darley concluded that there is a need for arsenate.

Harold Noble, vice president in charge of sales for S. B. Penick & Co., makers of the insecticide ryania, which was discovered by Merck & Co., reviewed the testimony on need for use of ryania and pointed out that it has particular value in controlling the European corn borer and the cranberry fruit worm.

Dr. P. T. Paul, a chemist of the U. S. Rubber Company, described analytical methods which can be used for determining the presence of the U. S. Rubber fungicides, phygon and spergon, and the miticide, aramite. Dr. H. D. Tate, manager of Agricultural Chemicals Development for U. S. Rubber, discussed phygon and spergon as foliage sprays and dusts, as seed protectants and as soil treatments. He said the newest phygon formulation, which is called phygon XL, is more effective than the earlier formulations and has proved to be of particular value as a control of apple scab in the northeastern states and of tomato diseases. Dr. Tate introduced residue data which showed that phygon when used as a spray or dust results in little residue and that it disappears rapidly. It was his opinion that when used as a seed or soil treatment, phygon would leave no residue. Although he had no residue data on spergon, the most general use of which is as a seed treatment, it was Dr. Tate's opinion that because of its early application no great residue problem exists.

The final U. S. Rubber product discussed by Dr. Tate was the miticide, aramite (*betachloro ethyl beta (para tertiary butyl phenoxy) alpha methyl ethyl sulfite*). He said that tests have shown it to be effective against the clover mite on apples, two-spotted mites on apples, beans and peaches, the European red mite on apples and peaches, citrus bud mite and red mite and the Pacific mite on grapes. He also said that there have been no reports that aramite is phytotoxic when used as recommended, it has good residual qualities, and it is not harmful to operators, although it is incompatible with bordeaux.

Dr. R. H. Wellman, head of the Department of Biology of the Union Carbide and Carbon Chemicals Corporation, discussed the effectiveness of the fungicidal products glyoxalidine and chromate which are sold under the trade name of Crag. He reviewed the evidence which shows the value of glyoxalidine as a control of apple scab on apples, cherry leaf spot on sour cherries, and of chromate as a control of early and late blight on potatoes. Dr. F. R. Whaley, research chemist of the Union Carbide and Carbon Chemicals Corporation, described the chemical composition of chromate fungicide and said that, in his opinion, chromate as such was not translocated from potato foliage to the tubers because of its high degree of solubility. William N. Moore, associate chemist of the Union Carbide and Carbon Corporation, described methods of chemical analyses which could be used in determining the presence of copper, zinc and chromium. He said tests have indicated that potatoes do absorb zinc and chromium from soil. Dr. J. N. Wickert described a quantitative method of detecting glyoxalidine residue on apples and cherries. He reported the results of residue tests which showed that cherries sprayed with glyoxalidine and canned in their own juice contained residues of 1.4 ppm on the cherries and 2.2 ppm in the juice.

Dr. John L. Horsfall, chief entomologist of the American Cyanamid Company, described the effectiveness of calcium cyanide dust for control of grape leafhopper, and summarized the approved uses of parathion. Tests show that calcium cyanide will give 85 percent to 90 percent kill of the grape leafhopper and results in no residue. He said that Dr. Carter, the Director of Livestock Branch, Production and Marketing Administration, USDA, administrator of the Federal Insecticide, Fungicide and Rodenticide Act, had approved parathion label recommendations in regard to the insects which attack apples, pears, peaches, plums, prunes, grapes, beans, tomatoes, peppers, carrots, celery, cabbage, broccoli, corn, onions, peas, potatoes, cherries, strawberries, blueberries, citrus, olives, peanuts, soybeans, hops, cucumbers, squash, melons, beets, spinach, lettuce and escarole.

Dr. B. D. Gleissner, a Cyanamid entomologist, introduced additional information on the comparative value of parathion in control of insects of various fruits and vegetables which had not been previously discussed. Among these were fig pests, raspberry fruitworm, peach insects, pineapple mealybug, cowpea curculio, grasshoppers and the crown borer on blackberries. He also described an experiment which in his opinion established the volatility of parathion.

Dr. P. R. Averell, analytical research chemist for the Cyanamid Company, described a residue determination method for parathion. The method has some limitations because of color interference when used on cucurbits and also because of the volatile nature of parathion. The over-all efficiency of the method on both surface strippings and total extractions from pureed material is roughly 85 percent. Dr. Averell reported upon the results of residue tests on 215 samples of fresh fruits and vegetables received from all parts of the country. In all the samples, it was found that residue decreases with time, that a week after the last application there were no residues as great as 2 ppm and only three isolated cases over 1 ppm. Two weeks after the last application, all residues were below 1 ppm and only two isolated cases were over 0.5 ppm. Concerning translocation of parathion, tests show extremely low values of parathion in the edible portions of tested plants. There is no evidence as to whether its presence is due to translocation or to penetration resulting from vaporization or some other transfer mechanism.

Dr. Averell also described an experiment which indicated that parathion is removed from an inert surface by volatilization at a fairly rapid rate. The results of this experiment are in agreement with the aphid

vaporization test, the quantitative test of Bradley and the fact that the bio-assay determination method results in residues which closely agree with the chemical detection method.

K. G. Nolan, a Cyanamid biologist, described the bio-assay method for parathion determination which had been previously referred to by Averell. The method has proved to be effective even when the amount of parathion present is as low as 0.02 ppm, although it is not effective when more than one insecticide has been used on the plant or the history of the plant is unknown. Mr. Nolan reported the following test to demonstrate the volatility of parathion. Aphids were placed some inches from bean plants which had been previously sprayed with parathion. Volatility was sufficiently strong that an 85 to 99 percent kill of the aphids was obtained. W. R. Bradley, industrial hygienist, described an experiment in which the air of a parathion sprayed orchard was sampled. Detectable amounts of parathion were in the air for nine days after the spraying and apparently would have been present for some time longer. The conclusion to be drawn was further assurance that parathion volatilizes into the air when it disappears from the surface upon which it is applied.

Dr. G. R. Ferguson, technical director of the Insecticide Division of the Geigy Company, testified concerning DDT. He said that because of the thoroughness with which previous witnesses had discussed the uses of DDT, there was little left to be said. He clarified the terminology concerning the various DDT formulations and said that DDT plant injury of cucurbits can be avoided by the use of purified DDT rather than technical DDT.

A new experimental insecticide called metacide, which had not been previously mentioned at the hearings, was introduced by T. F. Cleary of the Geary Chemical Corp., its manufacturer. He said that metacide is not yet in commercial production and that it is composed of 20 percent parathion plus 80 percent methyl homologue. It is the hope of the Geary Corporation that metacide will not be as toxic to warm-blooded animals as parathion and yet be as efficient in controlling insects. The only data concerning the material which they put into the record at this time were the results of residue tests. The residue determinations were made both by chemical and bio-assay analysis and in each case the results were quite similar to those previously reported for parathion.

Dr. R. T. Hall, supervisor of the Analytical Department of the Hercules Powder Company, discussed the results of residue determination tests on toxaphene. The analyses were made using the organic chlorine method which although not specific for toxaphene, is considered by Dr. Carter of the USDA and other experts to be the best available method. Residue on apples varied from 1.4 to 1.7 ppm 6 to 8 weeks after the last of five applications. No toxaphene residue was found on the tubers of potato plants which had been sprayed with toxaphene. Peaches had residue of 1.1 ppm 12 weeks after the last of 3 applications and 2.8 ppm 10 days after the last of 4 applications. Only outer cabbage leaves showed any residue and that was 4 ppm 1 week after the last of a total application of 12.6 pounds per acre. There was no residue on washed stalks of celery which had been treated with 2.4 and 6 pounds per acre but 1.9 ppm was found 13 days after final application of 10 pounds per acre; 8 ppm on washed foliage from celery treated with 10 pounds per acre; 20 ppm on unwashed foliage from celery treated with 10 pounds per acre and 3 ppm on unwashed foliage treated with 6 pounds per acre. Eight days after the last of 10 applications at the rate of 1.2 pounds per acre on tomatoes, the residue was 0.0 ppm.

E. P. Ordas and J. E. Bussart of the Velsicol Corp., makers of chlordane and heptachlor, closed the testimony for the week. Mr. Ordas listed and briefly described several chemical methods for the determination of chlordane and gave the chemical and physical properties of heptachlor, a chlorinated hydrocarbon. Mr. Bussart summarized the fruit and vegetable insects for which chlordane is or shows promise of being a control. Among them were grasshoppers, ants, wireworms, cutworms, leafminers, beet webworms, onion maggots and armyworms. He stated that for control of many of the insects he listed, the recommendation is that chlordane should be used in or on the soil or on the young plant when no edible portion of it is available; consequently, the residue problem is minor or nonexistent.

Heptachlor, which has been in experimental use for two years, shows promise as a control of grasshoppers, European corn borer, Japanese beetle, onion thrips, seed corn maggot and plum curculio on peaches. Mr. Snapp, of the USDA, had previously testified that when it was used at the rate of 4 pounds of 25 percent wettable powder per 100 gallons of water, it killed 100 percent of new first generation plum curculio adults within 5 days. It killed 70 percent of new first generation adults within 7 days after it had been on the tree 7 days.

The hearings adjourned until the following week at which time they were to continue with testimony from industry witnesses.

PERSONNEL

Dr. Cameron Presents Paper

Dr. E. J. Cameron, Director of the N.C.A.'s Washington Research Laboratory, presented a paper discussing the research organization of the National Canners Association at a round table on "Coordinated Product Research" before the Food Industries Advisory Committee of The Nutrition Foundation, at Skytop, Pa., May 11.

1951 Convention

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buyer groups; N.F.B.A. its member-brokers and non-canner principals; and C.M.&S.A. its member exhibitors.

Details of the allocation of Chicago's hotels to the various participating groups have been worked out by the sponsoring associations and will be announced when final agreements have been reached with each of the hotels. Details regarding applications for hotel rooms also will be announced later by each respective association.

Raw Products Research Notes

(Concluded from page 169)

rently appearing in a number of scientific journals and other publications which have a direct bearing on production of fruits and vegetables. While these articles discuss some of the routine, basic problems related to production, such as proper soil constituents and adequate crop nutrition, many of the articles report work now going on in various institutions involving use of newer methods or materials concerning which canners should be informed. The use of hormones, weed killers, instruments for color measurements, and the newer chemicals for disease and insect control are some of the lines of study which are discussed in the articles.

While in many instances only preliminary results of experiments under way are presented, the information contained in these journals, nevertheless, may lead to important changes in crop production practices and some of the newer techniques might be tested immediately, on an experimental basis, by canners having agricultural research departments.

The Bureau is ready at all times to discuss and interpret agricultural research results with canners, in the light of their individual conditions.

Board and Dedication Schedule of Events

To assist members in their planning of trips to Washington to attend the Board, Council and Committee meetings or Dedication Ceremonies, or both, the following schedule of principal events is published.

Monday, June 5

1:30 p.m.—Joint meeting of Scientific Research and Washington Laboratory Committees, 2nd Floor Conference Room, New Building

6:30 p.m.—Buildings Committee, North Room, Mayflower Hotel

Tuesday, June 6

9:30 a.m.—Budget Committee, Secretary's Office, New Building

10 a.m.—Washington Laboratory Committee, 2nd Floor Conference Room, New Building

11 a.m.—Administrative Council, Main Conference Room, New Building

2 p.m.—Procurement Committee, Library, New Building

6:30 p.m.—Labeling Committee, North Room, Mayflower Hotel

7 p.m.—Association of Canners State and Regional Secretaries, Dinner Meeting, Pan-American Room, Mayflower Hotel

Wednesday, June 7

9:30 a.m.—Board of Directors, Main Conference Room, New Building

12:30 p.m.—Board Luncheon (includes Administrative Council, Committee members and State Secretaries), Blue Room, Shoreham Hotel

2 p.m.—Board of Directors (afternoon session) — Blue Room, Shoreham Hotel

5 p.m.—Cocktail Party, home of Secretary and Mrs. Carlos Campbell, 1607 S. Arlington Ridge Road, Arlington, Va.

Thursday, June 8

All Day—New Building open for inspection by visitors

10 a.m.—Ceremonies at New Building where keys are turned over to President Henry P. Taylor

11 a.m.—Unveiling of oil portrait, Frank E. Gorrell, with remarks by Frank M. Shook, representing the donors, the Association of Canners State and Regional Secretaries

12:30 p.m.—Dedication Luncheon, Ballroom, Mayflower Hotel

N.C.A. 1949 Financial Report

A copy of the audited financial statement of the National Canners Association for 1949 was mailed this week to each member canner.

PROCESSES

Processes for Asparagus, Green Beans, and Peas In Metal Containers

On April 5, 1950, the N.C.A. Processing Committee on Foods in Metal Containers approved process recommendations for asparagus, green beans, and peas, which will be published in the 7th Edition of Bulletin 26-L, entitled *Processes for Low-Acid Canned Foods in Metal Containers*, scheduled for distribution during June, 1950.

The initial temperatures specified designate the average temperature of the can contents at the time steam is turned on for the process. Just prior to the start of the process, the contents of the container used for checking the initial temperature should be shaken or stirred and the temperature determined. This container should be representative of the coldest cans in the retort load and should have an initial temperature equal to or greater than the initial temperature specified. The initial temperature specified is to be regarded as a prerequisite minimum of the process suggested. If a can is closed at a temperature higher than that of the canning room atmosphere and is then held for some time in the room before it is processed, the contents will cool but the temperature at the center of the can may not be appreciably less than the closing temperature. It is for this reason that, from the standpoint of sterilization, the contents of the container should be stirred or shaken and the initial average temperature determined just prior to the start of the process.

The process recommendations for asparagus, green beans, and peas follow:

Asparagus, white and white-green

Can name	Dimensions	Retort temperature	Initial temperature	Time[a]	
				Tips up	Tips down
		Deg. F.	*Deg. F.*	*Min.*	*Min.*
8Z Tall	211x304	240	70	27	25
No. 1 (Picnic)	211x400				
No. 1 Tall	301x411		120	26	23
No. 2[b]	307x409				
No. 1 Square	300x308x308	248	70	19	16
No. 2½ Square	300x308x604		120	18	14
No. 2½	401x411				

Asparagus, all green

Can name	Dimensions	Retort temperature	Initial temperature	Time[a]	
				Tips up	Tips down
		Deg. F.	*Deg. F.*	*Min.*	*Min.*
8Z Tall	211x304	240	70	27	27
No. 1 (Picnic)	211x400				
No. 300	300x407		120	26	25
No. 1 Tall	301x411				
No. 2[b]	307x409	248	70	19	17
No. 1 Square	300x308x308		120	18	15
No. 2½ Square	300x308x604				
No. 2½	401x411				

Asparagus cuts, white or green, including soup cuts

Can name	Dimensions	Initial temperature	Time at	
			240° F.	248° F.
		Deg. F.	*Min.*	*Min.*
8Z Tall	211x304	70	26	16
No. 1 (Picnic)	211x400			
No. 1 Tall	301x411			
No. 2[b]	307x409	120	25	15
No. 2½	401x411			
No. 10	603x700	70	32	20
		120	30	18

[a] Two series of processing times are shown in the last two columns, headed tips up and tips down, respectively. These headings refer to the position of the spears in the retort during processing. Processing the cans in a vertical position is very important.

[b] Cans of No. 2 diameter but of other lengths than 400 should be given the same processes as the standard No. 2 can.

Beans, green or wax, whole or cut[a]

Can name	Dimensions	Initial temperature	Time at 240° F.	Time at 245° F.	Time at 250° F.
		Deg. F.	*Min.*	*Min.*	*Min.*
8Z Tall	211x304	70	21	16	12
No. 1 (Picnic)	211x400	120	20	15	11
No. 303	303x406				
No. 2	307x409				
No. 2½	401x411	70	26	19	15
		120	25	18	14
No. 3 Cylinder	404x700	70	32	22	18
		120	30	20	16
No. 10	603x700	70	37	27	22
		120	35	25	20

Beans, green or wax, asparagus style[a, b]

Can name	Dimensions	Retort temperature	Initial temperature	Time
		Deg. F.	*Deg. F.*	*Min.*
8Z Tall	211x304	240	70	26
No. 1 (Picnic)	211x400		120	25
No. 303	303x406			
No. 2	307x409			
No. 10	603x700	240	70	47
			120	45

Beans, green or wax, Julienne or French style

Can name	Dimensions	Retort temperature	Initial temperature	Time
		Deg. F.	*Deg. F.*	*Min.*
No. 2	307x409	240	70	26
			120	25
No. 10	603x700	240	70	47
			120	45

[a] These processes apply only to beans that are properly blanched.
[b] All cans of asparagus style beans should be processed in a position such that the beans are upright in the retort.

Peas, in brine[a]

Can name	Dimensions	Initial temperature	Time at 240° F.	Time at 245° F.	Time at 250° F.
		Deg. F.	*Min.*	*Min.*	*Min.*
8Z Tall	211x304	70	38	26	16
No. 1 (Picnic)	211x400	140	35	25	15
No. 303	303x406				
No. 2	307x409				
No. 3 Cylinder	404x700	70	47	32	22
		140	45	30	20
No. 10	603x700	70	52	37	25
		140	50	35	23

[a] For processes for vacuum pack peas consult a research laboratory connected with the canning industry.

STATISTICS

Green Peas for Processing

Growing conditions of peas are summarized by the N.C.A.'s Division of Statistics on the basis of reports from the Bureau of Agricultural Economics and other reliable sources:

Backwardness characterizes for the most part the progress that has been made this season by green pea growers in planting their crops. Cold and rainy weather in Iowa, Minnesota, and Wisconsin and eastward to Atlantic Coast states has disrupted planting schedules. In the Pacific Northwest, most of the acreage was planted on schedule, but below normal temperatures were retarding the growth and development of the crop somewhat.

Delaware, Maryland, New Jersey, and Virginia: Practically all of the acreage intended for green peas in New Jersey and southward to Virginia was planted by the end of April. Stands were generally good and the ground is adequately supplied with moisture to maintain vigorous growth.

Pennsylvania: While some growers started to plant green peas early in April, rains near the end of the month interfered with the planting of later fields. Cool weather prevented earlier plantings from getting a good start and some of the seed has rotted in the ground. The season was also late in the extreme western part of Maryland.

New York: Pea planting has progressed very well during the past 10 days. In checking with packers, it is estimated that about 80 percent of the peas are now in the ground. It was expected that planting would be pretty well completed by the end of this week.

Ohio, Indiana, and Michigan: Rains and cold weather extended into these states. Many growers had about only half of the acreage that they planned to plant ready for seed before April 20. Planting is expected to continue into May.

Illinois and Wisconsin: Field work was seriously interfered with by excessive rains, blustery cold weather, and lack of sunshine through most of April. Very little acreage was planted by May 1. The season was generally from two to three weeks later than usual.

Iowa and Minnesota: Unfavorable weather prevailed in the green pea growing area of southern Minnesota and most of Iowa. Very little acreage was planted in April on account of rains and muddy fields. In western

Iowa, and across into Nebraska, more favorable conditions prevailed although temperatures were slightly below normal.

Colorado and Utah: In Colorado, planting was about finished by May 1, and the seed was generally germinating satisfactorily. In Utah, growing conditions were not as satisfactory as in Colorado. Acreage was planted about on schedule but some damage in early fields was caused by a late-April frost.

Idaho, Oregon and Washington: Planting was completed about on schedule. Soil moisture was generally adequate and seed was germinating satisfactorily, although weather was cool.

The net expectancy as a result of this weather would be that early crops such as peas may tend to bunch at the canneries in a late-season glut. Generally lower than normal temperatures will be the problem rather than moisture.

Preserving Industry Survey

At the request of the fruit preserving industry, the U. S. Department of Commerce has instituted a survey of the production of preserves, jams, jellies, fruit butters, and marmalades manufactured in 1948-49.

The project is under the immediate charge of Robert E. Heffernan, editor of the *Canned Fruits and Vegetables Industry Report*, with the financial sponsorship of the National Preservers Association. The industry plans to continue this survey on a year-to-year basis.

Questionnaire forms have been mailed to all known fruit spread manufacturers. Firms failing to receive one will be promptly supplied on communicating with the Office of Domestic Commerce, Department of Commerce.

1949 Spinach Pack

The 1949 pack of spinach is reported by the Association's Division of Statistics at 5,883,575 actual cases. This compares with the 1948 spinach pack of 4,347,628 actual cases. On the basis of 24/2's, the 1949 pack totaled 6,740,525 cases and the 1948 pack amounted to 4,989,290 cases.

In addition to the spinach pack, 2,246,508 actual cases of turnip greens, mustard greens and other greens were packed in 1949, as compared with 1,532,490 actual cases in 1948. Of the 1949 pack of miscellaneous greens, 1,241,673 cases were turnip greens, 625,152 cases were mustard greens, and 379,683 cases other greens.

1949 Spinach Pack

	1948	1949
	(actual cases)	
New York	122,414	(a)
Maryland & Delaware	299,105	386,650
Ozark Territory	1,119,054	2,200,543
Texas	846,888	929,256
California	1,453,575	1,960,412
Other states	506,592	406,714
U. S. Total	4,347,628	5,883,575

(a) Included in Other states.

Lima Beans for Processing

Reports of intentions to plant received late in April from lima bean processors indicate a decrease of about 11 percent from the 1949 planted acreage, according to the Bureau of Agricultural Economics. If these early-season acreage prospects materialize, the 1950 plantings of green lima beans for canning, freezing, and other processing will total 94,270 acres. This compares with the record-high 1949 plantings of 106,250 acres. The acreages for 1950 are interpretations of reports from processors and are based on past relationships between such reports and acreages actually planted.

Loss of acreage planted to green lima beans for processing has averaged about 8 percent annually during the past 10 years. If loss this year is about average, a planting of 94,270 acres would result in about 86,700 acres for harvest.

Green Lima Beans for Processing

State	1949 Indicated *(acres)*	1949 Revised *(acres)*	1950 Indicated *(acres)*
New York	1,400	2,100	2,500
New Jersey	12,800	13,500	6,500
Pennsylvania	4,200	4,200	3,700
Ohio	1,000	1,000	600
Michigan	3,400	4,100	3,200
Wisconsin	6,500	7,800	6,200
Delaware	20,500	19,000	17,100
Maryland	4,700	5,200	5,200
Virginia	4,000	4,540	4,600
Washington	1,600	3,100	2,500
California	24,030	20,900	21,500
Other states [1]	17,670	20,810	20,670
U. S. Total	101,800	106,250	94,270

[1] Ark., Colo., Ga., Idaho, Ill., Ind., Iowa, Kans., Minn., Mo., N. C., Okla., Ore., Tenn., and Utah.

1949 Packs of Berries

The 1949 packs of blackberries, boysenberries, loganberries, and youngberries, with comparisons, as reported by the Association's Division of Statistics, are shown below:

	Blackberries		Boysenberries		Loganberries		Youngberries	
	1948	1949	1948	1949	1948	1949	1948	1949
	(actual cases)		*(actual cases)*		*(actual cases)*		*(actual cases)*	
Washington	124,752	111,812	101,572	58,906	18,005	.....	3,862	.....
Oregon	156,434	143,682	385,166	247,778	89,340	114,690	27,587	10,514
Other states	246,915	413,390	227,541	311,541	.....	.....	8,437	3,950
U. S. total	528,101	668,884	714,279	618,285	107,345	114,690	39,886	14,464

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